

Dewatering Activities at Pabco Road June 10 through August 1, 2000
Final Phase I Construction Report

Prepared for

Clark County Parks and Recreation

By

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INTRODUCTION

This report describes dewatering activities and documents perchlorate releases and TDS levels in dewatering effluent as specified in the revised Rolling Stock Permit # TNEV99008. The information contained herein details the final portions of Phase I construction of the Pabco Road Erosion Control Structure in which dewatering activities had been reduced in aggressiveness. A subsequent report will be prepared to describe the Phase II construction dewatering activities.

DOCUMENTATION OF PUMPING VOLUMES (FLOW)

Documentation of pumped water releases to Las Vegas Wash is presented as the flow readings of outfalls 1, 1A, and 1B. Documentation of pumped water outflows to infiltration ponds were designated as outfalls 2 and 2B. Recorded volumes of water pumped to Las Vegas Wash and/or the infiltration ponds between June 10th and August 1st are presented in Table 1. Readings were taken weekly if no releases to the wash occurred. If effluent was released to the wash, daily readings were taken and total daily volume of water delivered to the wash determined. Volumes were determined for each outfall by taking daily or weekly readings of totalizing flow meters for each outfall and subtracting the previous periods readings. Very little effluent water was released to the wash, but instead was delivered to infiltration ponds during this last portion of Phase I construction.

Table 1. Flow readings in thousands of gallons for all dewatering outfalls from June 10 through August 1, 2000. Outfall designation 1 indicates release to wash, 2 indicate infiltration pond release.

Inclusive	Outfall 1	Outfall 1A	Outfall 1B	Outfall 2	Outfall 2B
6/10 - 6/14/00	Shut Down	Dismantled	Shut Down	15,788	11,658
6/14 - 6/15/00	342*	Dismantled	Shut Down	Not Meas.	Not Meas.
6/15 - 6/19/00	1371	Dismantled	Shut Down	Not Meas.	Not Meas.
6/14 - 6/21/00	Shut Down	Dismantled	Shut Down	18,649	15,478
6/21 - 6/28/00	Shut Down	Dismantled	Shut Down	19,094	15,196
6/28 - 7/5/00	Shut Down	Dismantled	Shut Down	13,874	12,889
7/5 - 7/12/00	Shut Down	Dismantled	Shut Down	13,543	11,002
7/12 - 7/19/00	Dismantled	Dismantled	1**	13,322	4,998
7/19 - 7/27/00	Dismantled	Dismantled	Dismantled	1,527**	Not Meas.
7/27 - 8/1/00	Dismantled	Dismantled	Dismantled	Dismantled	14,587
8/1/00	Dismantled	Dismantled	Dismantled	Dismantled	Dismantled

* Pond system near overflow conditions, water diverted to wash to allow pond to recover.

** Pipe was dismantled and sample taken from pipe drainage.

MEASUREMENT OF TDS

Total Dissolved Solids were measured using a Cole Parmer Con 410 Conductivity/TDS meter calibrated with a 3000 μmho standard. Effluent samples were taken for TDS measurements on the last day of May and on July 19 during the last part of the Phase II dewatering activities (see Table 2). This measurement is specified in the Rolling Stock Permit and it was confirmed with Catherine Pool of NDEP that the measurements were to be made on dewatering effluent samples, not Las Vegas Wash samples. These data demonstrate that the TDS in the effluent stream delivered to the infiltration ponds remained relatively constant, near 2000 mg/l, during the final portions of the Phase I construction.

Table 2. Total Dissolved Solid (mg/l) Measurements from Dewatering Outfall Samples.

Date	Outfall 1	Outfall 1A	Outfall 1B	Outfall 2	Outfall 2B
5/31/00	1950	Dismantled	Shut Down	2010	2180
7/19/00	Shut Down	Shut Down	2110*	1770	2100

* Pipe was sampled during drainage and dismantling.

ESTIMATION OF PERCHLORATE LOADINGS

Loading of perchlorate to the wash was estimated by taking daily samples of each effluent stream and analyzing the samples on site for perchlorate using a Cole Parmer ion specific perchlorate probe. This probe is sensitive to perchlorate levels down to approximately 0.5 ppm and is reliable and reproducible at levels above 1 ppm. The average of the readings for the previous day and current day was used as the concentration of perchlorate in a given outfall stream. The loading for a given outfall in kg/day was calculated based on the total flow and average concentration of that outfall. The volume of water delivered to the wash in each effluent was multiplied by the on-site measurements of perchlorate concentrations to determine a total load of perchlorate per day per effluent stream. Loading estimates were not prepared if effluent was only delivered to infiltration ponds.

As described in the previous report, aggressive dewatering activities for this project began March 28th and continued with major discharges to Las Vegas Wash until June 9, 2000 at which time discharges to the wash were terminated and all dewatering was directed to the project infiltration ponds. From June 10 through August 1, 2000, all dewatering effluent was directed to infiltration ponds with three exceptions. On June 15th, 7.1 kg of perchlorate, and on June 19th, 35.3 kg of perchlorate was released to the wash as a result of infiltration pond level management. On July 19th, 0.51 kg of perchlorate was released due to pipe drainage during system dismantling. All data was recorded on field data sheets which included sampling time, volume and concentration data of all outfalls.

SEDIMENT CONTROL

No observed sediment was discharged to the wash in the outfall discharges during the final portions of Phase I construction. Typically the discharges were very clear and devoid of sediment as described in the previous report and depicted in Figure 1. It was apparent that the type of dewatering process used in this construction project did not pose a problem in terms of sediment loading to the wash.

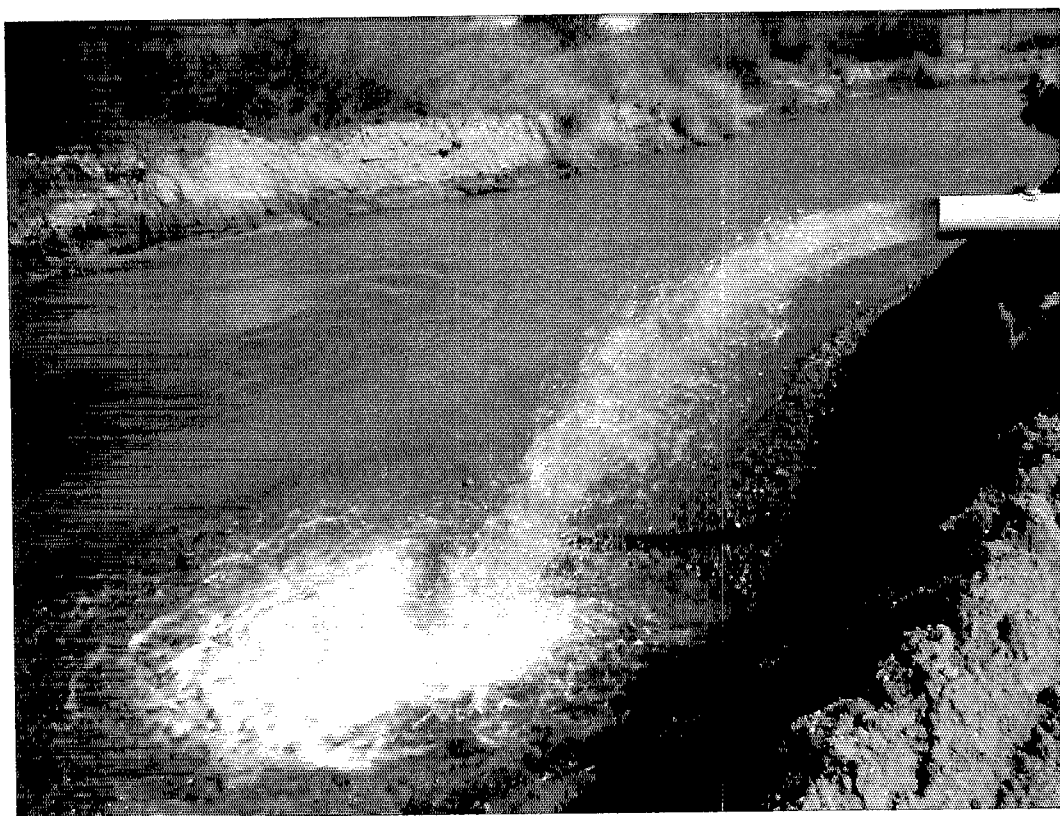


Figure 1. Typical Discharge Clarity of Dewatering Effluent During Phase I Construction.